

PETROLOGI DAN GEOKIMIA BATUAN VOLKANIK DI DAERAH KULONPROGO DAN SEKITARNYA DAERAH ISTIMEWA YOGYAKARTA

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Abstract

Study area is located at between Kabupaten Kulon Progo, Special Region of Yogyakarta Province and Kabupaten Purworejo distinct, Central Java Province, with geography coordinates of 110°00'00" BT - 110°15'02" BT and 7°35'00" LS - 7°50'30" LS. This area has 1024 km² (32 km x 32 km) wide.

The volcanic rocks in Kulon Progo were formed during Oligocene-Miocene time and have undergone alteration since that time. They mostly form the Old Andesite Formation, which consists of interbedded volcanic breccia, tuff, andesite, dacite and diorite. They are part of the magmatic Sunda-Banda Arc.

These volcanic rocks have chemical compositions that range from basalt andesite to dacite and from low potassium series to calc-alkaline series. Phenocrysts consist of pyroxene, hornblende, plagioclase, alkali feldspars and quartz. Rock chemistry of these volcanics reveals the characteristic of island arc affinities, both by major as well as trace elements abundances.

Keywords : *magmatic arc, old andesite formation, activity, island arc*

Abstrak

Daerah penelitian secara administrasi terletak di Kabupaten Kulon Progo, Propinsi Daerah Istimewa Yogyakarta dan Kabupaten Purworejo, Propinsi Jawa Tengah. Secara geografis daerah penelitian berada pada 110°00'00" BT - 110°15'02" BT dan 7°35'00" LS – 7°50'30" LS, dengan luas 32 x 32 km².

Geologi daerah penelitian didominasi oleh batuan vulkanik berumur antara Oligosen-Miosen. Batuan vulkanik tersebut termasuk dalam Formasi Andesit tua yang terdiri dari breksi vulkanik, tuff, andesit, dasit dan diorit. Selain itu batuan vulkanik juga termasuk dalam Busur magmatik Sunda-Banda.

Batuan vulkanik ini mempunyai komposisi kimia antara andesit basaltik sampai dasit dan termasuk seri batuan kalk alkali. Fenokris batuan terdiri dari piroksen, hornblende, plagioklas, felspar alkali dan kuarsa. Busur magmatik yang dihasilkan secara umum berarah timurlaut-baratdaya, berafinitas kalk - alkali dan berhubungan dengan lingkungan tektonik tansisional antara Busur Kepulauan dengan Tepian Benua Aktif

Kata kunci : busur magmatik, formasi andesit tua, afinitas, busur kepulauan